# Panel Systems

The purpose of this tutorial is to introduce the Panel Systems module of ETAP. It will be shown how to connect panels to buses and to other panels, as well as how to enter loading data into the Panel Schedule page. Note that you cannot add new panels in this demo, but you can browse the existing panels in the example project. For this section of the tutorial you should select "Example Project (ANSI)" option when starting ETAP 5.5.5 Demo.

Viewing the Panel Editor

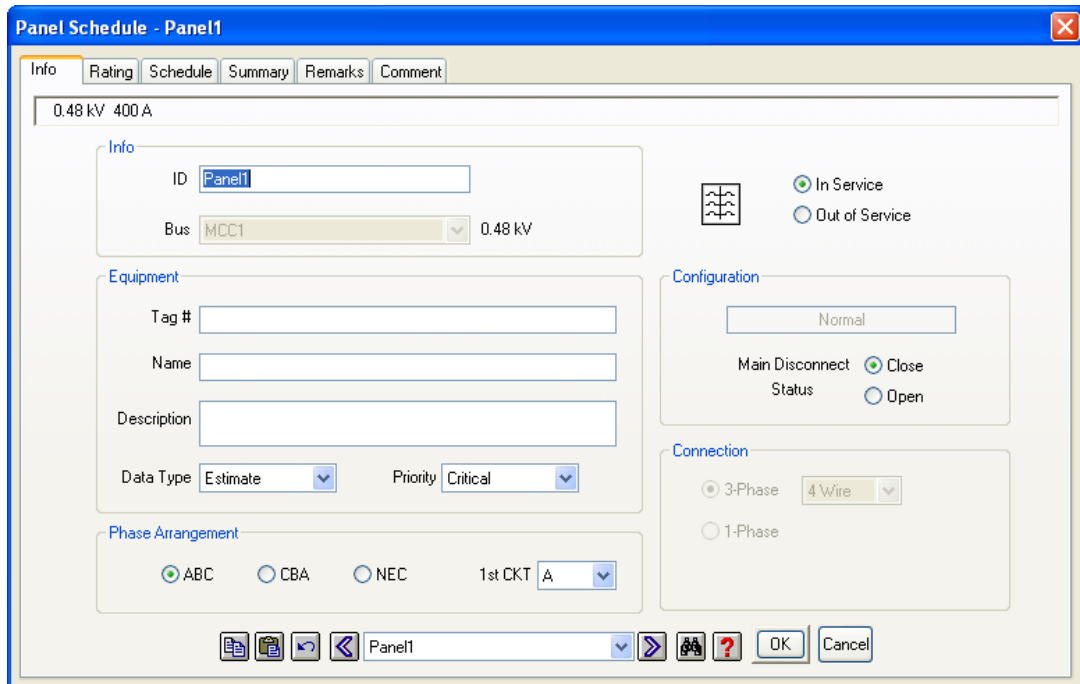🖱 Ensure that you are in Edit mode. Open the composite network Sub3 Net by double-clicking on it.

🖱 Connecting a panel to a bus is the same as with any other one-line element. The default connection pin of each panel is the top connector. Note how Panel1 is connected.
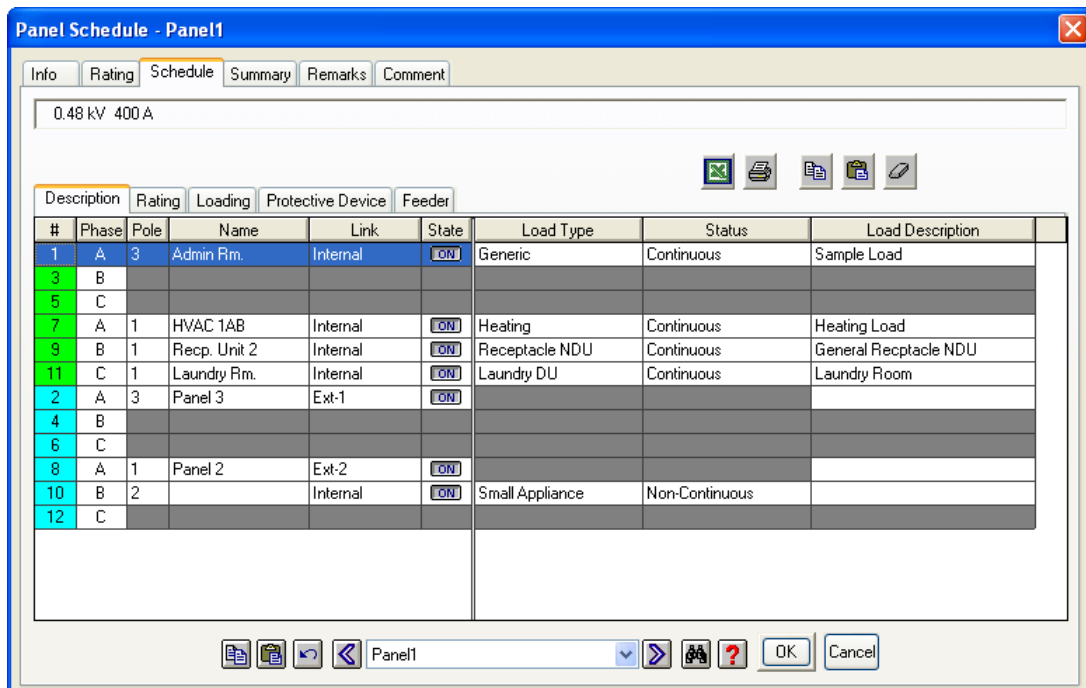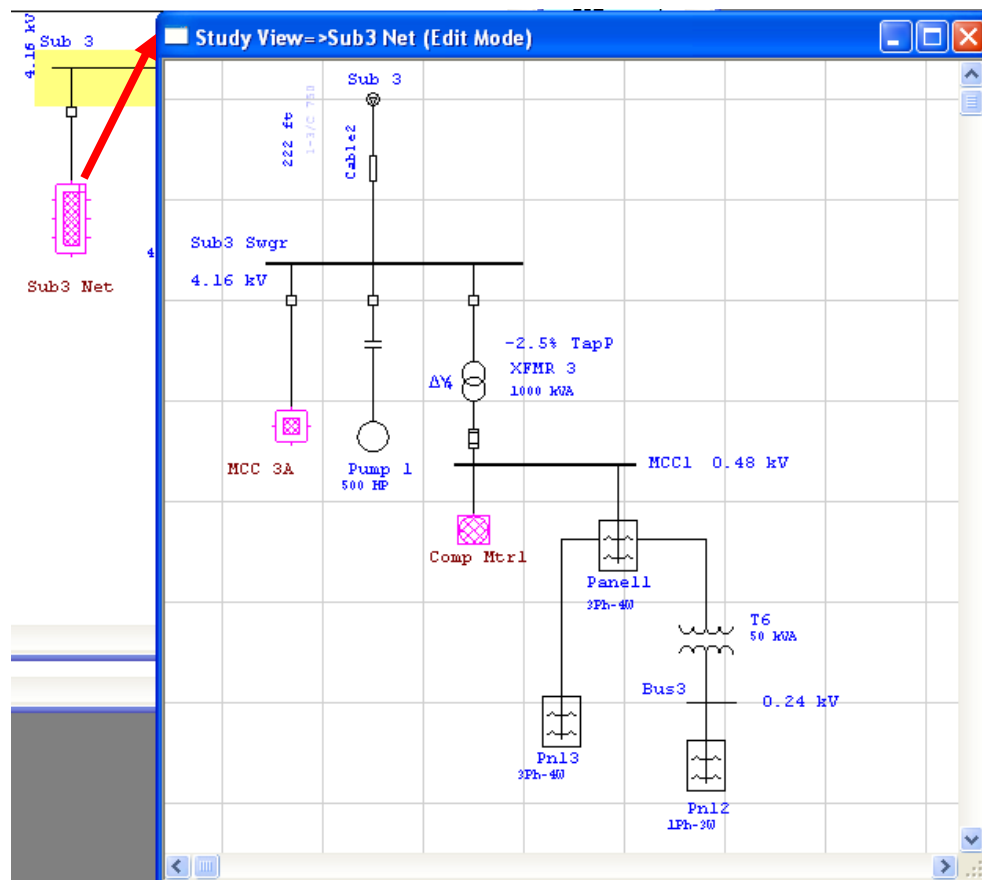
Double-click Panel1 to open the Panel editor. On the Info page, notice the panel is a three-phase element. On the Rating page, you will see that the rated voltage is 0.48kV to match the connected bus voltage.
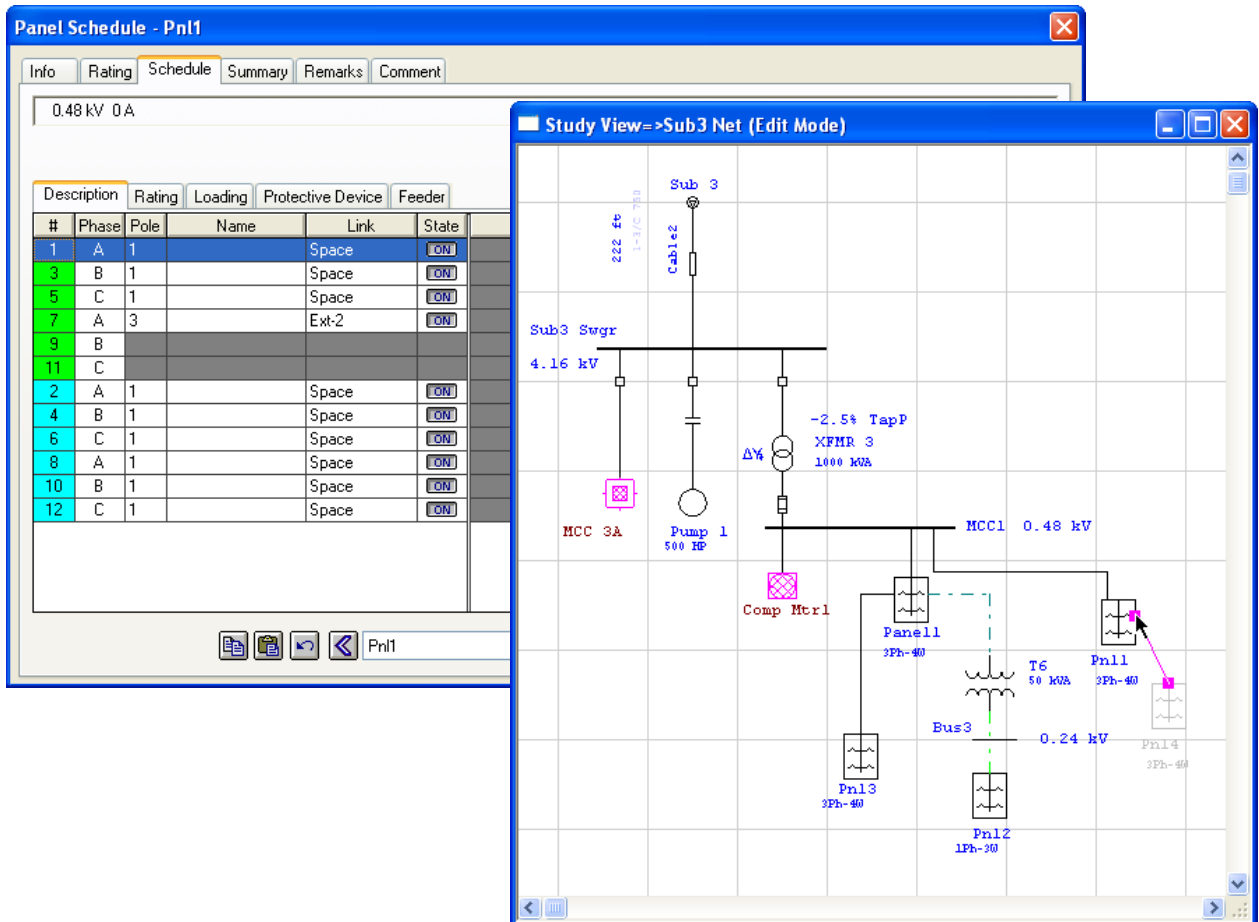

On the Schedule page, the individual panel slots can be filled by clicking on the corresponding Link box, and selecting an option from the drop-down menu. If you want to connect a slot to an external element, choose one of the four Ext-X slots. Note connections #2 and #8 are designated external in the figure below. The Summary page of the Panel Schedule editor details the total loading on the panel.

Adding New Panels

🖱 Add two more panels to the one-line and connect one of the panels to MCC1 as shown below. In order to connect the panels together open the editor for the panel connected to MCC1. Go to the Schedule page of the editor and set the number of poles for circuit #7 to 3 and Link type to Ext-2. This allows a 3-phase load, which in this case is the other panel, to connect to the Ext-2 connection.

🖱 Now you can connect the second panel to first by connecting the top pin of the second panel toExt-2 of the first panel as shown in the figure below.

Running a Load Flow Analysis on Panels
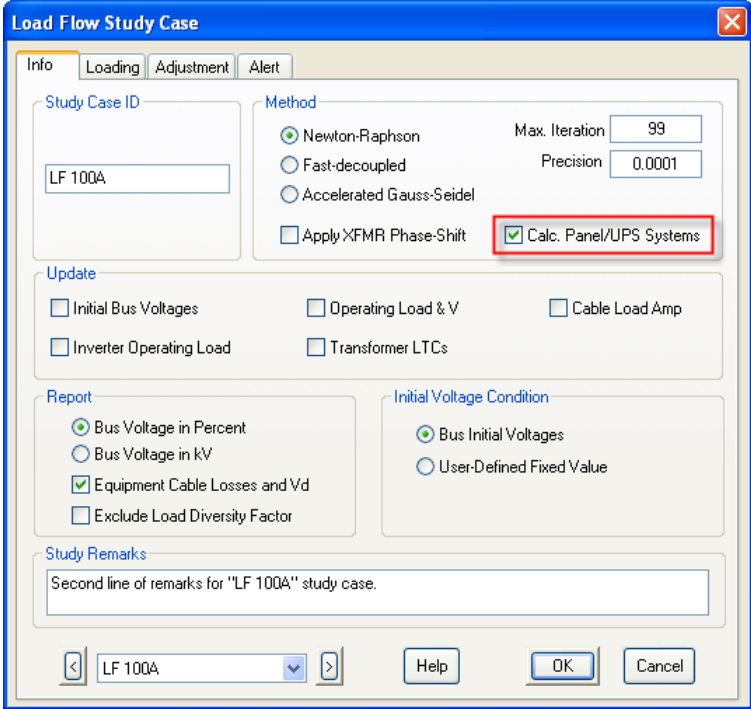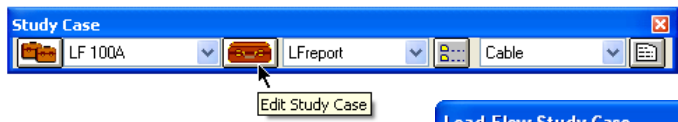
🖱 To perform load flow calculations on your panel system, switch to Load Flow Analysis mode, and click the Edit Study Case button on the Study Case toolbar. Check the box entitled Calc Panel Systems, and click OK to exit the study case editor.

🖱 Now run a Load Flow study on your panel system in ETAP as outlined in the Load Flow Analysis tutorial. Note the power flows to and from the panels.